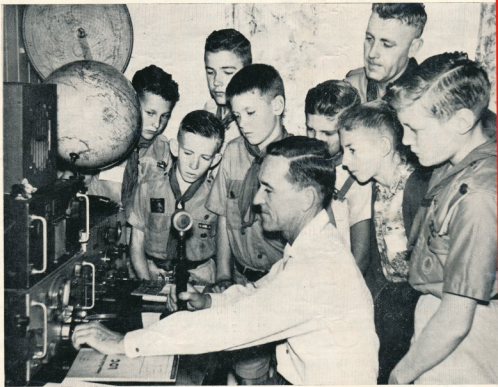


A M A T E U R R A D I O

OCTOBER 1964



Vol. 32, No. 10



2/-

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"AMATEUR RADIO"

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OCTOBER 1964

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★

OUR COVER

Gympie (Q'land) Scouts, who
contacted 57 stations in the 1963
Jamboree-on-the-Air.

Block by courtesy of "Gympie Times."

FEDERAL COMMENT

★

In Amateur circles, the various months of the year have begun to
assume new meanings—for instance, February has become N.F.D. month,
August is R.D. month, April is Federal Convention month, October is
VK-ZL Contest month, and so on. More recently October has become
associated with the Jamboree-on-the-Air as well as the DX Contest.

For those unfamiliar with the term "Jamboree-on-the-Air", it is a
radio get-together of Scouts from all over the world—a radio campfire in
which any Amateur, whether a Scout or not, may participate. The article
in last month's journal gives fuller details of the origin, objects and rules.
One of the objects was "to introduce them (the Scouts) to Amateur Radio
and Electronics". It is the theme of this object on which we would like
to enlarge.

Those Amateurs who in past Radio Jamborees have had young Scouts
to their shacks and conducted contacts with other stations where Scouts
were also present, will confirm the pleasure and interest shown by this
younger generation in Amateur Radio as a hobby. Although one of the
tests for a Scout Badge is a Morse Code test, it is very, very rarely that
this test is ever put to use. A Scout who is able to take part in a QSO
over the radio will be keener than ever to launch out into something
beyond the normal Badge test.

The intense interest shown by Scouts and their parents who visited the
W.I.A. Amateur Station at the Wonga Park Pan-Pacific Jamboree a few
years ago indicated that there was a ready source of budding Amateurs.
Unlike the High School Radio Scheme, which is now functioning in nearly
all States and rapidly making great strides with the younger generation,
a similar approach in the Scouting field has never been attempted.

The coming Jamboree-on-the-Air therefore provides an ideal oppor-
tunity to Amateurs to present our hobby to another section of the com-
munity who may well retain their initial interest and keenness and proceed
to the next step—becoming a licensed Amateur. Another Pan-Pacific
Jamboree is planned for the near future and Executive have already been
invited to participate by providing an Amateur Station as before.

The Jamboree-on-the-Air scheduled for the 17th-18th of this month
will enable a large number of active Amateurs to invite local Scout Troops
to their shacks and participate in friendly QSOs with other troops in
other parts of Australia and overseas. Contact your local Divisional
Organiser who will be only too happy to assist. The small effort involved
will be found to be richly rewarding and promote the spirit of Scouting
in having done your "good deed for the day".

FEDERAL EXECUTIVE, W.I.A.

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Type Number	Description and Application	Max PIV (V)	I_{FS} (mA)	I_F (AV) (mA)	I_F (SURGE) (A)	T_{amb} max (°C)	Outlines and Dimensions
AA119 2-AA119	AM/FM detector diode	45	100	15	0.2	60	SO-6
BA100	General purpose, small-signal silicon diode	60	100	90	0.2	90	SO-6
BA114	General purpose, small-signal silicon diode suitable for voltage stabilisation	—	—	20	—	90	SO-6
BA122	General purpose, small-signal silicon diode suitable for AFC	100	100	90	0.2	90	SO-6
BY100	Silicon junction power rectifier	800	5A	450	55 ■	70	SO-16
OA90	Sub-miniature HF detector diode	30	45	10	0.2	75	SO-6
OA91	Sub-miniature high-voltage general purpose diode	115	150	50	0.5	75	SO-6
OA95	Sub-miniature high-voltage general purpose diode	115	150	50	0.5	75	SO-6
OA200	General purpose, small-signal silicon diode	50	250	160	—	125	SO-6
OA210	Silicon junction power rectifier	400	5A	500	25	70	SO-16
OA605	Silicon junction, low current medium power rectifier	50	5A	500	25	70	SO-16
OA610	Silicon junction, low current medium power rectifier	100	5A	500	25	70	SO-16
OA620	Silicon junction, low current medium power rectifier	200	5A	500	25	70	SO-16
OA630	Silicon junction, low current medium power rectifier	300	5A	500	25	70	SO-16
OA650	Silicon junction power rectifier	500	5A	500	25	70	SO-16
OA660	Silicon junction power rectifier	600	5A	500	25	70	SO-16
OA670	Silicon junction power rectifier	700	5A	500	25	70	SO-16
OA675	Compensation diode for Class 'B' output stages	1 ●	10	—	—	75	TO-1

■ sine wave = 10msec

● although the reverse break-down voltage is normally much higher than I_V , this device is not intended to be used in the reverse direction

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M 142

Amateur Radio, October, 1964

GETTING STARTED ON 160 METRES

PART TWO

RODNEY D. CHAMPNESS,* VK3UG

IN the first article ("A.R." Aug. '64) a small transmitter for 160 metres was described. In this article an adaptation of the transmitter is described, combined with a few other general ideas that may help you to get started on this band.

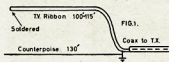
THE ANTENNA

Aerials for this band can be a real headache on a suburban block. A normal half-wave dipole will stretch out to a length of 250 feet, and as many suburban blocks are only in the vicinity of 100 feet long, half-wave dipoles are out. It is felt in general amongst Melbourne Amateurs on this band that a quarter-wave Marconi is perhaps the easiest to install.

My own aerial is a folded quarter-wave, made out of slotted 300 ohm t.v. ribbon. By using a folded type aerial the feed impedance is increased, resulting in lower ground losses, therefore higher radiation efficiency. The earthing system of my aerial consists of the mains earth and also a 130 feet length of insulated wire as a counterpoise (65 feet of 23/0076 twin flex split in two, laid alongside the building around some trees under a lawn and along the front fence).

The folded radiator is up as high as I can get it at 25 feet. The first 25 feet is vertical and the rest is horizontal. Another advantage with this aerial is the fact that the velocity factor of the twin ribbon is between 0.85 and 0.9, resulting in the aerial being about 110 to 115 feet long instead of 125 feet or thereabouts. This aerial is described in detail in William Orr's book, "S-Signals", which I would recommend.

Fig. 1 should give you an idea what the aerial is like. I might add my location is a difficult one for communication, and this is the best aerial I have found to date for this band.



RECEIVERS

Now to receivers. An ordinary broadcast mantle set is quite suitable to modify for 160 metre work. The information on how to modify a b.c. set's tuning range is covered in April "A.R." The information is in the s.w.l. section on page 14. If you are going to do this, I would recommend using a sensitive 5-valve set and nothing less as signals are nowhere near broadcast station strength. I have not tried this conversion myself, but the results with a good set will be satisfactory. For some time I did conversions to similar sets for the purpose of monitoring mobile bush-fire radios on a frequency of 2892 kc. These sets were able to receive mobiles up to 50-60 miles. The mobiles run powers of 7-10 watts and use 9-foot

loaded whips. Base stations were heard at distances of a 100 miles or so. These were day-time ranges.

An interesting and economical point about the transmitter described in the previous article is that it can be teamed with an ordinary b.c. set. Using the power from the set, it will run about 5 watts providing the high tension voltage is above 220 volts. The extra loading on the receiver power supply heater line can be largely offset by removing the dial lamps or replacing them with lower wattage types. The high tension drain of the transmitter is approximately the same as the receiver high tension drain.

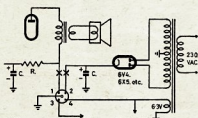


FIG. 2.

The modifications to the receiver and transmitter can easily be worked out by studying the accompanying diagrams. Most receivers use a resistance-capacitance filter network in the high tension line. The plate lead of the audio output valve usually comes off the first filter capacitor. The point to break the circuit is at the junction of the first filter capacitor, the dropping resistor and the speaker transformer primary lead. The capacitor is left connected to the rectifier cathode.

A lead is soldered to this capacitor and taken to a pin on the chassis mounted 5-pin miniature socket. Another lead is soldered from the junction of the dropping resistor and the speaker transformer primary lead to another pin on the socket. An earthed lead goes to a pin on the socket. A lead from the receiver aerial goes to another pin on the socket. The remaining pin is wired to the active 6.3 volt heater line, which is easily traced from the dial lamp sockets. Should the receiver require to be used without the transmitter connected, a shorting link across the two h.t. leads will do the trick.

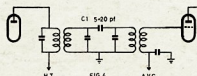
There are of course numerous modifications that can be done to a broadcast receiver. To further cut down the receiver heater drain, the replacement of the rectifier valve with a pair of OA211 silicon diodes is recommended. HR25s or OA210s, etc., can be used in this position if two of them are used in series in each lead. Equalising resistors and capacitors would be advisable across each diode. The value of the capacitor should be about 0.001 μ F, and the resistor 100K ohms $\frac{1}{2}$ watt.

Quite a number of receivers use 6M5s or similar as the audio output. By replacing these with a 6BM8, 6AB8 or 6GW8, using the pentode section as the

audio output, a spare triode section is available which could be used as a b.i.o., and with no increase in overall current drain in the set. An increase in the bias on the audio output valve won't unduly effect the volume and at the same time a significant saving in high tension current will be achieved.

Now turning to the radio frequency sections. The i.f. valve might be replaced, particularly if it is one of the lower gain types such as a 6U7G, 6K7, 6AD8, etc. A 6BA6 or EF50 could boost the sensitivity quite noticeably. The i.f. may, however, take off, so neutralisation may be necessary. This is accomplished by putting a 5-10 pF mica capacitor from the plate of the valve to the top of the a.v.c. capacitor. The a.v.c. capacitor will usually have to be reduced to 0.01 μ F, for the neutralising to be effective. A small plate may need to be soldered across the valve socket to separate the grid from the plate as much as possible.

Another thought for sharpening the i.f. is to fit two Philips i.f. transformers coupled as per Fig. 4 between stages. The value of C1 governs the degree of coupling between transformers and consequently selectivity. The larger the value the higher the coupling and gain. Compared with the normal two i.f. transformer set-up, this has lower gain so the substitution of a really "hot" valve would be necessary. A couple of suggestions here would be a 6AC7 or 6EH6. Isolation between the input and output would need to be good, otherwise it would really "take off". Re-arrangement of the components to achieve this isolation may be required plus a shield soldered across the valve socket, shielding the input and output would be a must. This shield must of course be earthed to the chassis.



The front-end could also be given a pep up. A converter using some of the older octal tubes might be replaced with the likes of a 6AE8, 6AN7A, 6BA7, or similar. Some of the t.v. tuner tube converter valves such as the 6EA8, 6BL8, 6U8 might also be tried, but care would be needed if a.v.c. is applied to this stage to be sure that the oscillator was not detuned by variations in a.v.c. voltage. Experimentation with the method of signal injection would be needed.

The aerial coil could come in for some attention. If a resonant aerial is used, a low impedance aerial coil primary would be desirable. This would consist of a few turns, up to a dozen, wound near the tuned winding. Of course if a non-resonant short aerial is to be used this would be an undesir-

* 5 Prince Street, St. Kilda, Vic.

able modification due to the high impedance of the short aerial already matching the impedance of the aerial coil primary.

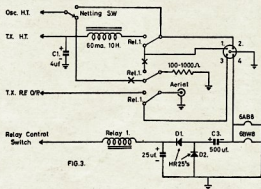
As can be seen from Figs. 2 and 3, the modifications to the receiver to run the transmitter are minor, and the alterations to the transmitter described in Part One are fairly minor. There are only a couple of things for comment in the amended transmitter con-

altered as per the ways mentioned for mantle sets. If an old vibrator type car radio could be obtained, so much the better. The vibrator power supply could be made to supply the high tension for the transmitter in much the same way as described for modifying mantle sets. The aerial coil in the car radio, if it is to be used solely for 160 metre work, should be removed and replaced with a coil with a low imped-

by-pass capacitors and the suppressor resistor in the coil h.t. line will, in most cases, make the vehicle "quiet". A suppressor in the coil h.t. line should only be put in where normal wire cored h.t. line is used. Where radio resistance cables are used, no suppressor is needed in this lead. For more elaborate suppression methods, should they prove necessary, the A.R.R.L. Mobile Manual and the "CQ" New Mobile Manual are recommended.

Results on this band are good, signals are heard from VK2-3-4-5-7 and many of these have been worked on low power both by myself and others. Trans-Tasman isn't unknown. The ZL allocation isn't the same as here, being 1875-1900 kilocycles.

Well chaps what about it? Dig out those old receivers, soldering iron and a few bits and pieces and get yourself started on this first class band. I hope I'll have the pleasure of working you soon on 160 metres! ●



trol. The first is the relay supply system. This is a voltage doubler circuit designed to give 12 volts for the relay from the 6-volt supply. The value for C3 should not be decreased below the value stated as its reactance would be too high, causing less than the 12 volts to be developed. The other is the value of C1. This should be kept as low in value as is consistent with low hum and no motor-boating. If this is too large, a squeal will most likely be heard on the changeover from transmit to receive or vice-versa.

If this cannot be overcome and you have a spare set of changeover contacts on the relay, they can be arranged to short out the high tension line of the section not operating at the time. This should be a short through a low value resistor, and not a direct short, or you will find the relay contacts rather burnt after a time of operation. These changeover contacts for the shorting are shown already in Fig. 3 and are the ones with the "X" in the leads to them. Of course this can be left out if you is only a d.p.d.t. relay, and in any case they may not be required, depending on the particular set.

GENERAL COMMENTS

Well that has described the equipment. Simple isn't it? 160 metres is the easiest band to get on without exception. It is an ideal band on which to try antenna experiments. Small aeriads do work, I believe that some of the chaps are working on some shortened 160 metre aeriads, results and descriptions I believe are to be put in "A B."

As yet I haven't tried mobile work on this band. John VK3AFU has tried mobile operation and the results he has obtained have been most encouraging. Range in excess of 25 miles with no fading or skip are being achieved regularly. Mobiles for this band would be simple to build. A transmitter similar to the one described in August, teamed with a car radio, would be an ideal set-up. The car radio could be

ance primary winding. An ordinary broadcast band coil could be suitable with the slug wound out or a few turns removed from the secondary winding. As these are wound with Litz wire, be careful to solder all strands.

One interesting thing about mobile on this band is the simple methods that are effective in suppressing the ignition noise. The usual coil and generator

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TECHNICAL ARTICLES

Readers are requested to submit articles for publication in "A.R.," in particular constructional articles, photographs of stations and gear, together with articles suitable for beginners, are required.

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SOME NOTES ABOUT STORAGE BATTERIES

WNG-CDR. C. G. HARVEY,* R.A.A.F., VKIAU

HOW many Amateurs remember that a car battery is not only an electrical device, but also a chemical contrivance? In its common lead acid form it consists of cells, each comprising positive and negative plates immersed in a solution of sulphuric acid and water. The plates are made by pasting oxides of lead into a lead alloy framework. They become active when the first "forming" charge is given to the battery in the factory, when the active material in the positive framework turns into lead peroxide, and that in the negative frame becomes more porous and spongy. Both "plates" are reasonably porous so that the electrolyte can penetrate.

As long as the battery remains fully charged, the sulphuric acid component of the electrolyte stays with its companion water outside the plates.

As the battery discharges, the acid leaves its water, and penetrates the active material of the plate, forming a temporary lead sulphate. When the battery is fully discharged, most of the acid has left the electrolyte so that a measurement of its specific gravity would show that it was mostly water, whose hydrometer reading would be 1.000.

You can see that it is active material in the plates that represents battery power, released by the flow of sulphuric acid during discharge. Shedding of this active material from the plates, whether due to bad design, shoddy manufacture, or electrical, mechanical or chemical abuse will cause a loss of power. Reputable manufacturers go to considerable trouble to produce a plate in which the active material is locked, so as to resist the shedding caused by gas bubbles and mechanical expansion. The object is solely to retain the material in the plates and not at the bottom of the case, for as long as possible, for when shedding occurs the days of the cell are numbered.

Just as one shoe often wears out before the other, so often will one cell in a battery prematurely fail. The cause of shortened life is not hard to find. Although most cases of failure are chemical, some are mechanical, causing internal shorts or high internal resistance.

By far the most common cause of premature failure is unintentional abuse through lack of proper care. Lead sulphate formed in normal useage is readily removed by regular charging, however, leave the plates stand in a discharged condition or continue to operate a partly discharged battery, and the sulphate becomes harder, denser and eventually crystalline.

An area of hard sulphate cannot be removed by charging, with the result that the whole of the active area of the plates is no longer available, and your battery's capacity is reduced, permanently.

* 16 Lynch Street, Hughes, A.C.T.

Another common cause of permanent damage arises from overcharging, which by producing heat and violent gassing evaporates water, and so exposes the tops of the plates. Exposure alters the chemical structure of the tops of the plates which never return to their original state, even if water is subsequently added. This area now acts in such a way as to attempt to discharge the remainder of the affected plates and ultimately the battery will fail to hold its charge for long and is then usually credited with being "worn out" prematurely.

Heat needs to be watched for two reasons. Firstly, high temperatures tend to soften active material, particularly when the electrolyte specific gravity is high. The gassing which occurs towards the end of the charge is then able to erode this relatively vital component easily. Most manufacturers therefore recommend about 110°F. as the maximum temperature during charging.

Another problem with heat concerns the accuracy of measurement of specific gravity. Battery electrolyte strengths are usually specified as being taken at 70°F. Any variation from this temperature requires that the hydrometer be corrected by 0.001 for each 2½ degree temperature difference from standard. Thus on a hot day, the electrolyte is "stronger" than the hydrometer shows.

Theoretically, VK7s should find a fully charged battery reads about 1.250 whilst our Capricornian VK4 friends should measure values of only about 1.220.

Looking at it another way, a 20 degree temperature rise will tickle up a partly discharged battery as much as an overnight 1 amp. charge!

BATTERY CAPACITY AND DISCHARGE RATES

It is sometimes assumed that measuring the specific gravity of a battery is the only scientific way to establish its condition. This is only partly true, and can be misleading unless it is also recognised that the battery's capacity for work can only be established by electrical means. To recapitulate, the principal cause of premature old age in a battery is loss of active material on area in the plates, either by shedding or by being covered by hard sulphate.

There is also a secondary cause, oxidation of the grid framework of the positive plates. This is brought about by the decomposition of the water in the electrolyte during charge, into oxygen and hydrogen. Oxygen is now the villain of the piece, as apart from creating an explosion hazard, the hydrogen is harmless. The excess oxygen causes the positive plate framework to rust away relatively quickly and is a frequent cause of batteries wearing out.

Now, any discharged battery, whether "worn-out" or only in a low state of charge will register a low value on a

hydrometer (because the acid in the electrolyte has gone into the plates). The fact that the specific gravity will again rise during charge simply means that some acid has been returned to the electrolyte.

However, note that if half the area of the plates in a battery were affected by fixed hard sulphate, they would for all practical purposes be "dead", and despite an increase in specific gravity reading after charge, the battery capacity would be no more than half its original capability.

Consequently, unless of adequate capacity originally, it might now be unable to do its normal job of starting a stiff engine properly.

One method of checking an ageing or suspect battery is to allow the battery to stand for 24 hours after a full charge. If its SG drops more than 10 points, it's reasonable to assume the battery is not going to hold its charge long.

This method is time consuming and can be confused by temperature changes, so it is now more usual to apply a high discharge rate electrical test which will show the voltage to which the battery drops under normal heavy load.

As there is much confusion about battery ratings, it is important to realise that a 100 ampere hour battery will maintain a steady 10 amps. for one hour; in fact, it would not even give 50 amps. for 2 hours before its terminal voltage dropped drastically.

This is because the actual capacity of the battery is not a constant, but varies considerably with the rate of discharge. The capacity given for most batteries is the number of ampere hours available from a fully charged battery, which is discharged to a stated voltage, at a uniform rate over 20 hours.

Thus a 100 ampere hour battery will generally give only 5 amperes for 20 hours. This discharge rate would bring a 12 volt battery steadily down to 10½ volts in 20 hours.

Sometimes a rating for 10 hours is given and in this case a 100 A.H. battery would supply only 10 amperes for 10 hours.

Note, however, that sometimes a battery is also given a "cranking rating," which is a short term rating such as 100 amps. for 20 minutes, during which the voltage would drop to 9.

Obviously then, for mobile or field day activities, discharge rates in excess of 10 amps. demand adequate amp. hour ratings and re-charging facilities.

To recharge a battery to its original rating will require about 20% more ampere hours than have been taken out of it, but surprisingly enough, the high discharge rate incurred in starting engines and dynamotors are less troublesome in respect of battery life than prolonged useage of lamps and power supplies, etc., which regularly discharge the battery to very low voltages.

This is because a start taking say 200 amperes and occupying 3 seconds

amounts to only one-sixth of an ampere hour. This can be replaced by the average automotive generator in about 1 minute; allowing for losses, it should be possible in daylight running to put 2 ampere hours back into a battery in about 12 minutes running.

Reputable battery manufacturers say that wear and tear on a starter battery is not brought about by high discharge rates, but by the often haphazard re-charge used to restore the battery to its fully charged state. They claim that good batteries can be discharged at the greatest rate the associated cables will stand without damage and that even at these rates, recuperation will occur rapidly providing the maximum rates are applied intermittently.

The reason for this is that a battery is protected when subjected to a near short circuit because the acid cannot diffuse into the plates quickly enough to maintain a very high rate of discharge. Additionally, soft sulphate immediately forms, increasing the internal resistance of the cell, thereby restricting the current flow to safe values.

On the other hand, long slow discharge rates denude the electrolyte of all its acid, allowing lead hydrate to permeate the pores of the plates and separators, leaving sulphate coatings which can be very difficult if not impossible to eradicate.

Perhaps Grandpa's "old blooper", with its 201As, horn speaker and all, had the right idea, as an essential component on nearly every radio table in the thirties was an "A" battery and a trickle charger.

SOME COMMON FALLACIES

"Never make a practice of operating the starter with headlamps burning at the same time," so goes the instruction in some car handbooks, usually with the pious statement that "this puts too great a strain on the accumulator." To quote a well known battery maker, "Who says so?" Examination of the appropriate curves will soon show that an increase in discharge rate from 100 to 110 amps only drops the terminal volts a tenth of a volt! and guess what, it's the same at 200 amps—if your battery hasn't been poisoned by sulphate and neglect!

"Boiled water is just as good as distilled water." Don't you believe it. The effect of boiling is to concentrate the impurities. For instance, if a water sample originally contained 3 parts chlorine to 100,000, and it was boiled until half the sample had evaporated, guess what—the residue would contain 6 parts!

Remember that no source of natural water can be given a permanent certificate of purity, and that in some communities one must be on guard for periodical chemical treatment of the town water supply! For that matter, it is not unknown for analyses of distilled water to show contamination, often by chlorine. Clean pure water is infinitely preferable to impure distilled water, but in the absence of an analysis, better stick to a reliable commercial brand of distilled water.

"How Often Should The Acid Be Renewed?"

It seems impossible for some people to credit that sulphuric acid does not

weaken or lose virtue by ageing, and that it does not evaporate. Thus the maker's instructions say clearly, add clean pure water only, never acid.

"This Battery Will Not Sulphate"

If any lead acid battery is tested during discharge, it will be found that there is a gradual drop in the specific gravity of the acid. If this is so, where has the acid gone to? It has gone into the plates, but it has only done so by combining with the active material as lead sulphate. Thus if there is no sulphation, the cell cannot function.

"When Charging It Is Necessary To Keep The Current Constant"

Not so. Up to the gassing point, and about 110°F., the rate is practically immaterial. After that, it is necessary to

keep the rate down to minimise "shedding", caused by convection and violent gassing.

"A Battery Is Short Circuited When Submerged In Water"

Not necessarily so. Absolutely pure water is an excellent insulator. Even when impurities are added to river water, the resistance across the battery terminals would be much too high to affect its performance. The specific gravity of the electrolyte is heavier than that of the water so that there would be no immediate diffusion of the river water into the electrolyte. Foxes in all States, bar VK3†, take note!

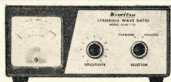
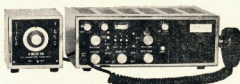
† The Maribyrnong River is believed to have concealed at least one Fox's Battery in recent years.

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Modifications to the AR7

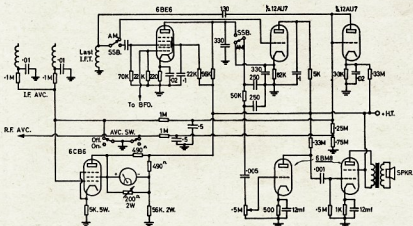
H. A. BEHENNA,* VK5BB

ALWAYS wanting a second receiver, and one that lent itself kindly to experiments, I was fortunate to procure an AR7 fairly cheaply. Not wishing to alter the original receiver, and with interest mounting toward s.s.b., this looked the answer to it all. The AR7, much modified on purchase, looked OK, but on being switched on was certainly a doubtful quantity.

With the aid of the scope iron all was removed back to the second r.f. stage. Starting with the converter, this

Should you have one of these receivers or any other type that can be bandspread, then I urge you to try this out, especially if your main receiver has no product detector. You will be surprised and mighty happy. When someone on s.s.b. calls you, you will know just what they are saying.

I have left the b.f.o. circuit out of the diagram, you can suit yourself here. Please yourself on tube types, because the ones I used I had in the drawer.



was changed to a 6AE8, being slightly better than the 6K8. Next, a strip of the original chassis was removed, which previously held the i.f. sockets, etc., and a new piece of aluminium holding the second r.f. (12AU7) and the 6BE6 was re-bolted over the hole caused by the said strip, being removed.

A suitable socket was placed in the original power input hole to take the leads from the power supply which was kept exterior.

The 6U7s were changed to EF39s, both in the r.f. and i.f. stages, and the circuitry wired. The 6BE6 acting as the product detector, half the 12AU7 as the infinite impedance detector, the other half as the a.v.c. amplifier. The 6CB6 as a triode and S meter tube and the audio driver and output a 6BM8. You will find plenty of space left to locate the 6C4 b.f.o.

Upon switching on I found it worked first up and apart from the odd dry joint, etc., and adjustment of the S meter, we were in business.

When I say it worked, I must admit that considerable time was spent on the product detector input voltages, to get the s.s.b. sounding right. Having the second receiver, I decided to go for the bandspread, so very helpful with the reception of sideband.

The s.s.b.-a.m. switch is located in the noise-limiter hole.

Individual circuitry for each stage is standard and can be found in most issues of any good handbook.

Oscillator and b.f.o. are fed from voltage control tube, and a noise limiter is to be added later. ●

☆
OPTIMISM

There is a peculiarity of man's mental make-up which makes him very prone to give himself the benefit of the doubt, when something he wants to do is in question. The fish that got away is always the largest, the 50 miles per hour might just as easily be due to a rather favourable speedometer as to the actual performance, and so on.

Short wave reception is something like that. Everybody at some time or another, who has listened in on short wave has heard a distant station at good strength. He has been thrilled to the teeth over an unexpected purple patch which he struck at 2 a.m. when all sane people were in bed and snoring. He has emerged triumphant, after an hour's frenzied listening, with the call sign of an elusive foreigner.

Next time you meet him, he is full of the tale—how he received the particular station at full speaker strength, loud enough to wake the house, and the quality! Just like a local.

What he means, of course, is that he brought in some static, a fair amount of fading, and so on, but undeniably he did bring in the station. He badly wanted it to be equal in every way to a local, and his natural enthusiasm brought him very near to his objective. This was not deception—it was merely a little optimism.

There is no harm in it at all, except for the dis-service it is apt to render, S.W.'ing as a whole.

When QSL'ing, always send an honest report, as much detail as possible, be brief and to the point. It is as easy as that.

MORSE CODE PRACTICE

The New South Wales Division of the Wireless Institute of Australia provide a comprehensive service for Morse practice. Apart from the nightly Morse Practice Sessions on (approx.) 3550 kc. commencing at 7.30 p.m. E.A.S.T. at 5 w.p.m. and finishing at 8.15 p.m. at 16 w.p.m., there is the Morse Tape Service, which has proved very helpful to those who own or have access to a Tape Recorder. Since the C.w. Tape Service was started early in 1963, 580 hours of Morse on Tape has been sent out to interested parties. Figures at the end of last month were—

New South Wales	.....	284	hours
Victoria	.....	115	"
Queensland	.....	81	"
South Australia	.....	27	"
Western Australia	.....	16	"
Tasmania	.....	10	"
A.C.T.	.....	17	"
New Guinea	.....	30	"
<hr/>			
Total hours of Morse			
Distributed		580	

Included in this total is 199 hours copied on to "Customer's Own Tapes". The majority of it on to 3-inch reels recorded at $1\frac{1}{2}$ i.p.s. Radio Clubs find it better to own and keep their own tapes. Now Morse has been discontinued in the Post Office, chaps are finding it difficult to obtain Morse practice.

The Morse Tapes are on 5-inch reels (1,200 feet) and the recordings have been made at 3½ i.p.s. Two hours of Morse are on each reel. The Service is free to anyone wishing to learn Morse. Each user is asked for 1/6 per tape to cover "out of pocket expenses"

To obtain a tape application should be made to the Education Officer, VK2 Division, Wireless Institute Centre, 14 Atchison Street, Crows Nest, N.S.W.

The following tapes are available:—
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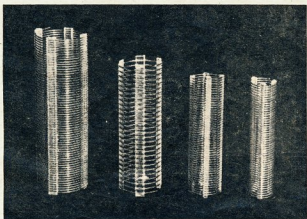
- No. 1—One hour at 5 w.p.m., plus
one hour at 6 w.p.m.
No. 2—One hour at 7 w.p.m., plus
one hour at 8 w.p.m.
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one hour at 11 w.p.m.
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one hour at 14 w.p.m.
No. 5—One hour at 15 w.p.m., plus
one hour at 16 w.p.m.

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W.I.A. members are requested to promptly notify any change of address to their Divisional Secretary, not direct to "Amateur Radio."

* 14 Stanley St., Crystal Brook, South Australia.

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1-16	$\frac{1}{8}$ "	16	3"	No. 3003	5/3
2-08	$\frac{1}{8}$ "	8	3"	No. 3006	6/3
2-16	$\frac{1}{8}$ "	16	3"	No. 3007	6/3
3-08	$\frac{3}{8}$ "	8	3"	No. 3010	7/4
3-16	$\frac{3}{8}$ "	16	3"	No. 3011	7/4
4-08	1"	8	3"	No. 3014	8/5
4-16	1"	16	3"	No. 3015	8/5
5-08	$1\frac{1}{8}$ "	8	4"	No. 3018	10/6
5-16	$1\frac{1}{8}$ "	16	4"	No. 3019	10/6
8-10	2"	10	4"	No. 3907	13/9

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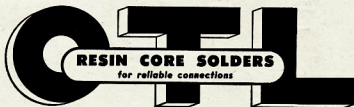
References: A.R.R.L. Handbook, 1961: "QST," March 1959;
"Amateur Radio," December 1959.

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Part Two—Assessment of the Vackar Oscillator with Circuits and Values for 1.8-39 Mc.

PAUL HARRIS. G3GFN

HAVING used the Vackar oscillator on a wide range of fundamental frequencies over a number of years, the writer recently undertook a quantitative assessment of its performance in order to obtain verification of certain features which had become apparent. Elementary initial tests indicated that a comprehensive study of this oscillator would be well worthwhile, particularly if at the same time minimum values were obtained for the amateur frequency allocations and other frequencies used in Amateur equipment.

Three oscillators were constructed with basic frequencies of 500 kc., 1.25 Mc. and 5 Mc., and each in turn tuned to beat with the MSF transmission on 5 Mc. After a stabilising period of one hour, the beat was adjusted to precisely 1 kc. and displayed on a direct-reading frequency meter. The oscillator under test was then switched off for half an hour. Upon switching on—both h.t. and l.t. at the same instant—the initial stabilising time to return to the 1 kc.

made mechanically very rigid with only first class components. Furthermore, particular attention was paid the disposition of components and the temperature gradients likely to be encountered by them, especially those directly involved in the frequency determining circuit. Details of this layout are given later.

REASONS FOR STABILITY OF THE VACKAR

Why is the Vackar oscillator so stable? Primarily for three reasons—

(a) The valve capacities—as in the Clapp oscillator—are effectively swamped by fixed capacitors forming part of the tuned circuit, but—unlike the Clapp—also with regard to any changes in **interelectrode** capacities. Due to their arrangement, these capacitors remain sizeable even at high frequencies, so maintaining the stability factor.

(b) The valve operates virtually in class A, so holding harmonic circulating currents and phasing effects to a minimum.

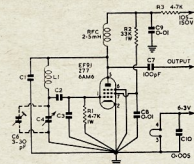


Fig. 7.—Vackar oscillator for the frequency range 1.5-15 Mc. For the values of C1, C2, C3, C4 and L1 see Tables 2 and 3. Trimmer C6 is optional. C7 is a d.c. blocking capacitor. R3 is mounted outside the v.f.o. box.

Frequency of oscillator under test	M.S.F. freq.	Harmonic of oscillator	Initial stabilising period	Actual initial frequency shift	Initial shift in fundamental frequency	Initial shift as %	Further drift over 3-hour period	Long term stability as %
500 Kc.	5 Mc.	$\times 10$	10 secs.	250 c/s.	25 c/s.	0.005%	5 c/s.	0.001%
1.25 Mc.	5 Mc.	$\times 4$	10 secs.	400 c/s.	100 c/s.	0.008%	10 c/s.	0.0008%
5 Mc.	5 Mc.	$\times 1$	15 secs.	400 c/s.	400 c/s.	0.008%	25 c/s.	0.0005%

Table 1.

NOTES:—(a) Valve type EF91. (b) All power h.t. and Lt. applied at same instant.

(c) H.t. 105v, stabilised by VR105/30.

beat, initial drift, and long-term stability over a three-hour period were noted. The results are shown in Table 1.

This table shows the quite remarkable performance of the oscillators tested in respect of the parameters measured. The figures given are the average of three runs on each oscillator, all of which agreed very closely. From the results obtained, upon which no information was given in the original report, it seems likely the tolerances quoted for (a) voltage variation v , frequency change (10 per cent.) variations in h.t. producing a change in frequency of 0.005 per cent. and (b) frequency change in temperature (20°C. change in temperature producing a frequency shift of 0.0014 per cent.) quoted in Ref. 2 would be easily substantiated.

Precise measurements of the relative levels of low order harmonics of the three test oscillators showed that the second harmonic was 32 db. down and the third harmonic 45 db. down on the fundamental.

(c) The cathode of the valve is held at earth potential and is in no way associated with the tuned circuit or feedback path.

In the original review of the Vackar oscillator in the R.S.G.B. "Bulletin," and as will be seen from Fig. 6 (see Part 1), mention was made of the fact that the circuit required the use of a two-gang tuning capacitor, and this may well have hindered its adoption. However, it was indicated that a single tuning capacitor could be employed.

Realisation of the ultimate stability of which the Vackar circuit is capable will be given when a twin gang tuning capacitor is used for the oscillator operates under balanced conditions. Nevertheless, with the exception of oscillators constructed with basic frequencies higher than 15 Mc., and over the limited deviation required for the Amateur bands, a single tuning capacitor has been found entirely satisfactory. The oscillators evaluated in Table 1 employed single tuning capacitors.

OSCILLATORS FOR 1.5-15 Mc

Where the frequency is below 15 Mc. a single pentode type EF91, Z77 or 6AM6 will give excellent results. These types may be replaced by any similar valve with a Gm of the order of 7.5 mA/V. The circuit is shown in Fig. 7, while Table 2 specifies values for fundamental frequencies of 1.8 Mc., 3.5 Mc., 7 Mc., 8 Mc., 9 Mc., 10 Mc., 11 Mc. and 14 Mc.; those for 8 Mc. to 14 Mc. being included for their utility in v.h.f. equipment.

Table 3 details the values of components for use with the circuit of Fig. 7 for any frequency in the range 1.5 Mc. to 15 Mc. The values given are those which will give substantially level output over the frequency bands indicated.

Range	S.w.g. Turns Enamel S.w.	C1 pF.	C2 pF.	C3 pF.	C4 pF.
AMATEUR BANDS:					
1.8-2.0 Mc.	24	70	556	4700	556
3.5-3.8 Mc.	28	45	500	2700	300
7.0-7.1 Mc.	26	30	200	1800	200
14.0-14.25 Mc.	24	15	100	1000	100
SPECIAL FREQUENCIES:					
8 Mc.	26	25	200	1800	200
9 Mc.	26	20	200	1800	200
10 Mc.	24	25	140	1800	140
11 Mc.	24	20	140	1000	140

Table 2

For use with circuit of Fig. 7. For Amateur
bands 1.8-14 Mc.

All coils wound on 5/16 in. diameter formers fitted with 1/2 in. long iron dust cores. Winding sense: from foot of former towards top. *Depending on frequency swing required. See text.

* Reprinted from R.S.G.B. "Bulletin," Mar. '64

* "The Amateur Radio Handbook," R.S.G.B., page 169.

COMMON CONSIDERATIONS

Notes which apply to all tables are now in order. The values given for Amateur and special frequencies are those which produce virtually the same output on each frequency within a similar valve group. That is, the output of an oscillator on, say, 7 Mc. will be of the same order as that from any other in that group—the 1.8 Mc. oscillator for example.

It will be noted that only in the case of the Amateur bands is a value quoted for a tuning capacitor. For other frequency ranges the value will have to be experimentally determined according to the frequency shift required.

Range (by adj. of core)	L1 S.w.g. Turns	C1 pF.	C2 pF.	C3 pF.	C4 pF.
1.5-2.5 Mc.	34 70	556	4700	556	•
2.3-3.3 Mc.	34 45	556	4700	556	•
3.2-4.5 Mc.	28 45	500	2700	400	•
4.3-6.3 Mc.	28 35	300	2700	300	•
6.1-8.8 Mc.	26 30	200	1800	200	•
7.8-11.0 Mc.	26 20	200	1800	200	•
10.5-15.0 Mc.	24 20	100	1000	100	•

Table 3.

For use with circuit of Fig. 7 for general coverage 1.5-15 Mc.

Formers as Table 2. *See text.

All the coils are iron cored, and with stray capacities of about 10 pF., adjusting the core will bring the oscillator on to the special frequency with the core of the coil concerned set at about mid travel. Adding capacity at C4 will lower the frequency by an amount depending on the maximum value of the added capacity. In the case of general coverage coils, the frequency range shown is that over which an oscillator would tune by running the core of the coil from one end of its travel to the other, again assuming circuit stray capacities of the order of 10 pF. For any tuning range the coil is selected which will, by adjustment of its core, tune to the highest frequency required. The value of C4 is then determined experimentally to tune the circuit to the lower required frequency.

Two types of 5/16 in. diameter formers are available. One is a straightforward type—see Fig. 8—and the other, usually supplied with a screening can and normally used in the construction of i.f. transformers, has a

square base fitted with eyelets for wire termination and is threaded for 6BA fixing bolts—see Fig. 12. Of the two types the latter makes coil construction easier, and it has the added advantage that it is available on the surplus market. The length of former required is 1 in. and any excess can be trimmed down with a fine saw.

It has already been stressed that construction and layout hold almost equal importance with the actual circuit used. For this reason precise layout and construction details are provided for both of the circuits given. While these are not the only arrangements which would prove satisfactory, they are those used in oscillators built to check performance and values. In these

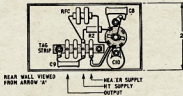


Fig. 9.—Rear wall.

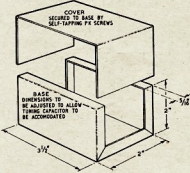


Fig. 10.—General construction of oscillator chassis/box assembly. To be secured to the main chassis by PK screws. Clearance hole to be cut in chassis to allow passage of leads from oscillator. Ventilation holes 1/4 in. diameter to be drilled in main chassis directly under oscillator valve position. Material: 16 s.w.g. or 18 s.w.g. aluminium.

layouts, account has been taken of the temperature gradients likely to be encountered by components, especially those associated with the tuned circuit.

Figs. 8 and 9 show the layout of the series of oscillators derived from the circuit of Fig. 7, while Fig. 10 shows the general construction of the chassis/box assembly. This is the form of construction used for the oscillators evaluated in Table 1.

OSCILLATORS FOR 14-39 Mc.

Above 15 Mc. a really effective buffer should always be used after the v.f.o. to ensure adequate isolation and freedom from pulling. A cathode follower offers almost complete isolation but at the cost of a slight reduction in total available voltage. Where the Vackor oscillator circuit is employed, this is usually unimportant due to its high output. A useful arrangement utilises the 6U8/ECF82 in which the pentode functions as the oscillator, and the triode as cathode follower. This particular valve also has the additional advantage that substantially the same layout can be used as for the lower frequency oscillators.

Fig. 11 shows the circuit of a Vackor oscillator, employing a 6U8/ECF82, for

Amateur Bands	L1 S.w.g. Turns	C1 pF.	C2 pF.	C3 pF.	C4 pF.
14.0-14.35 Mc.	22 20	100	1000	100	20
21.0-21.45 Mc.	20 15	68	1000	68	15
28.0-29.7 Mc.	20 10	68	1000	68	20

Table 4.

For use with circuit of Fig. 11. For Amateur bands 14-28 Mc.

Formers, cores and windings as Table 2.

Range (by adj. of core)	L1 S.w.g. Turns	C1 pF.	C2 pF.	C3 pF.	C4 pF.
GENERAL COVERAGE:					
13.5-18.5 Mc.	22 15	100	1000	100	•
18.75-25.5 Mc.	20 15	68	1000	68	•
25.0-33 Mc.	20 10	68	1000	68	•
30.0-39 Mc.	20 7	68	1000	68	•

Table 5.

For use with circuit of Fig. 11.

Formers, cores and windings as Table 2.

*See text.

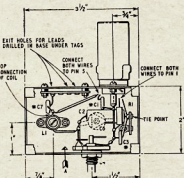


Fig. 8.—General component layout of 9 Mc., 11 Mc., and 14 Mc. oscillators. Main dimensions to be adjusted to allow correct fitting of C4 in 1.8 Mc., 3.5 Mc., and 7 Mc. oscillators. *Vertically mounted.

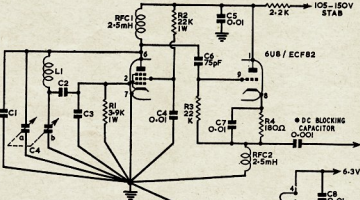


Fig. 11.—Vackor Oscillator and Cathode Follower for frequency range 13.5-39 Mc. For values of C1, C2, C3, C4 and L1 see Tables 4 and 5.

YOUTH RADIO CLUBS

For the eye that glances here only occasionally, there should be a reminder of the considerable achievements of the Y.R. Scheme. In about three years of development in VK2, some 40 clubs have been established and 14 A.O.C.P.s or L.A.O.C.P.s have been gained by club members. To press the point about what can be done, the VK2 Honour Roll is listed below. (Other States, especially VK3 and VK4, with a later start, are on their way to similar success.)

(i) Ian Forrest (Booragui High), (ii) George Brzostowski (Lyneham High), (iii) Roger Davis (Lyneham High), (iv) Vincent O'Donnell (St. Leo's Wahroonga), (v) Phillip Lowe (Rapping High), (vi) Harvey Smith (St. Leo's), (vii) Jim Watson (Lyneham), (viii) Susan Brown (Booragui High), (ix) Ross Buckley (Booragui High), (x) Jan Oosterveld (Westlake Club), (xi) Michael Macintyre (C.B.C., Wollongong), (xii) Doug Williamson (Club Leader, Bass High), (xiii) Ralph Satchell (former Club Leader, Homebush High), (xiv) Paul Goldsbrother (St. Edward's, Gosford).

In general, we have a skeleton organisation, at least, in every State, with off-shoots in India, Malaysia, Christmas Island, and New Guinea. In addition, we have exported the idea to New Zealand and Great Britain, where licence requirements are similar.

There should also be a permanent advertisement for new club leaders. It would be particularly helpful if more club leaders could be found amongst those who are not already working with young people. This is a very important point in the story of serious trouble amongst juveniles. The cultivation of "separateness", either through commercial preying on the money in the hands of teenagers or through the extreme adult selfishness of refusing to have young people as even a small off-shoot of their adult organisation and privileges is probably a bigger factor than is realised.

For present and future club leaders, Bob Gutberlet (VK5OD) has kindly offered to undertake the stencilling of Form YRS/10 "Suggestions for Club Leaders and Instructors", an 8-page collection of suggestions gleaned from various clubs. To obtain this booklet, send Bob (a) 8d. stamped, addressed large

return envelope (full or half foolscap); (b) extra 8d. stamp enclosed in your forward envelope; to help with the cost of stencils, etc. On your return envelope, put "printed matter only" on top left hand corner, print YRS/10 in bottom left hand corner. Address your forward envelope to Rev. R. C. Gutberlet, P.O. Box 89, Mount Barker, South Australia.

All States should notify their State Supervisor now if they have an entrant in the Morse Code Championship for members of Y.R. Clubs. State Championships in over 15 and under 15 grades should be found in time for a Commonwealth Championship in the middle of December.

VK2 news plentiful because of VK2 News letter No. 1, edited by Jim Webster at Birrong High. New club at Bankstown Boys' Rally (church group). Very first Y.R.S. member to pass Inter. Certificate was Greg Dunne (3rd year at Kingsgrove High) with 79 and 92 on written papers and a very well-made superhet receiver, an oscilloscope, and a two-valve amplifier as project projects. Elementary pass (80%) to Geoff McLeod (Kingsgrove). Junior passes to James Poole (88%) at Kingsgrove High. Mr. Freeman, of Australian Radio College, has kindly offered a Scholarship to Y.R.S. members. To be eligible, the candidate must hold Intermediate Certificate (at least this year). The award will give a free course in Radio Servicing, either by correspondence or personal attendance. This should raise some keen competition. Helpful donations of a.w. receiver from Mr. G. Kinnear, of Pymble, and five traded receivers from Mr. Moulang, of Bankstown.

From VK3, Dave 3ZMX writes details of publicity in daily papers for the very youthful stalwarts of Gowrie Park State School, resulting in helpful donations of some assorted gear and enquires from a local Scout Group. As well as looking after his active A.P.I. Club, Dave is going to put on a display at Bundaroo Christian Brothers.

Other news is scarce, but it's the end of a trying term for teachers (disbelievers are welcome to try). Y.R.S. has been ill and we are to buy anyway. Hope to hear from you all when you can manage it. 73, Ken 1KM.

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Publications Committee Reports . . .

Until the 15th September all incoming notes for "A.R." have been published, and in addition correspondence, other than that published in this issue, was received from the following:

VKs 3WK, 5WV, 1LF, 3XQ, 5EK, 5RG, 4ZA2, 5UB and 6ZDM, in addition 12 letters from K. A. Harding, C. G. McCue and L3102. The latter was forwarded to F.E. for their attention. Technical articles were received from VKs 3UJ, 2ON, 4DA and 6HH.

As negotiations have been concluded with the P.M.G., the new edition of the Call Book is now being prepared and a new cover has been introduced with, as someone said, a "Pansy" pink colour. My, that man seems to get into everything.

The new wrapper for "A.R." has proved very satisfactory in so far that several "A.R.s" were returned to P.O. Box 36 as being incorrectly addressed and the correct address has been sent to the mailing service for their attention.

Readers are again reminded that all W.I.A. members must notify incorrect mailing addresses direct to their Divisional Secretary. "A.R." should only be notified if the reader is a direct subscriber.

All notes for "A.R." must be addressed only to P.O. Box 36; if they are sent to any other address, delays will occur in publication.

GALAXY S.S.B. TRANSCEIVERS

Galaxy III.—80-40-20 Mx	£230	Accessories (continued):—	
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DESCRIPTIVE LITERATURE UPON REQUEST

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Suo-editor: Chas. Abernethy, WI-12211
30 Urunga Parade, Miranda, N.S.W.

Well chaps, the R.D. Contest is over once again, and by mail received, band conditions were not the best, but large scores were recorded for. The best frequencies appeared to be in this order: 7, 14 and 3.5 Mc. with nil reports on 21 Mc. A good variety of calls were present as during my short period of listening heard on 7 Mc. all VKs from 1 to 0, so the final result should be very interesting.

A WILL AND A WAY

Today, as it was in the past, many Amateurs first started in radio via the ranks of the Short Wave Listener. When I was asked to provide a few lines for this page I wondered what would be best. Since then I came across a practical case of S.W.'ing. By the nature of my work I travel many thousands of miles each year. In the country one Sunday morning, I wanted to check up on the Divisional broadcast, and at the time came was not a tree for miles to "string an aerial to", and the only alternative was a fence with a few rusty strands of barbed wire. I connected the antenna to the receiver and this rusty long wire—the result, best interstate DX for months. I ended up missing the broadcast because came across opening up heard of for some time. The antenna would not have averaged more than a foot from the ground.

You might ask, what is the interest in that, it's no doubt been done many times before. True, but it is an example of what Amateur Radio is willing to try anything to find results for ourselves. If you develop an enquiring mind early in your S.W. life, then it comes because you obtain your ticket. Tim, L2052/VK2ZTM.

FREQUENCY AND WAVELENGTH

Sometimes, the newcomer to radio finds difficulty in coping with the relationship between frequency and wavelength. To understand these terms properly one must bear in mind the fact that radio waves travel at the speed of light. This is approximately 186,000 miles per second.

To use the common example, if you drop a stone into a pond, ripples radiate outwards in a regular circular pattern. Each ripple represents a temporary disturbance of the water particles. Think now of an electrical disturbance in space and you can form a mental picture.

The physical distance between two points of maximum voltage stress of the same polarity is called one wavelength. In fact, we can be more general and say that wavelength is the physical distance between any point on particular wave and the corresponding point on the next wave.

Now remember that radio waves travel at a speed of 300,000,000 metres per second. A particular signal has a wavelength of say 300 metres, then it would take just one-millionth of a second for one wave to pass a given point. Looking at it the other way, we could say that one million 300 metre waves would pass a fixed point in one second. Being slightly more exact, think now of an electrical wave in radio wave has a frequency of 1,000,000 metres per second. (To be continued.)

NEW SOUTH WALES

Attendance at our monthly meetings has increased considerably, and we are fortunate also in having a steady flow of new members joining our group. It is indeed a pleasant sight to see new faces each month, and we trust that they will continue to come along. The four which is to be held for twelve months by the winner of the VK2 receiving section of the R.D. Contest is ready and when the result is known, will be inscribed and forwarded to that lucky person.

From the south-west comes word from Jerry L229, who is stationed at Wagga Wagga. Hope you have the literacy of some value and pleased to welcome you to the page. How about telling us of DX conditions in that area?

Norm L2251, now living in Brisbane, is up and at least after a term in hospital. He has moved to a new QTH and is busy getting set up. He hopes to be soon ready to participate in the DX from, and also to have his 14 number in the near future.

Russell L2263 would like to hear of any S.W.'s who are interested in the Jamboree-on-the-Air, as he is organising in his district and would like to arrange skeds with other members who are Scouters. Russell's QTH is 91 Smart St., Fairfield, Sydney, N.S.W.

Ray L2237 is this month doing the Morse exam. for the second class ticket, and like many of our members is in the same boat of other exams., hence the lack of listening.

VICTORIA

Greg L3138 sat the full 24 hours in the R.D. Contest to net a good score. During August he received QSLs from OAI, VR1, EA, G3, ZD7, VS1 and VK4JQ. Thanks for your suggestion of the page. Congrats on your win in the R.H. Contest.

Lloyd L3141: QSLs received for the month: IQ7, SZ4, 601, VP9, EA7, YV5, W0, JA8, HK3, DL5 and VA/AM. He is a member of the Long Island DX Association and has promised me to come into on same, so as I can pass it on to some other S.W.'s.

Noel L3101 participated in the R.D. Contest and compiled quite a nice score. Many thanks for letting me see that letter from South Africa. Yes, we are indeed fortunate to live in our own country, but it seems to me that seems to be a problem that we all share, hi.

Last but by no means least, Eric L3042, has just returned home after a very nice holiday in VK4 during which time he travelled 3500 miles. Sorry to have missed you OM, but maybe see you early in '85. Eric has 163 QSLs from ships. We would be interested to know if any other S.W.'s have any such QSLs? Latest cards to hand: FB8, FK3, FO8, OK1, UQ2, VQ8, VS1, Z88, etc.

QUEENSLAND

Another member enjoying the annual break is Lew L4020, whose other hobby is deep-sea fishing, and naturally is doing a fair bit of just that. Thanks for the letter from OM, I may use it in the page one of these months.

A newcomer to the L4 section is Noel L4034 who holds the position of State Headquarters Commissioner for Senior Scouts in VK4, which must be very time consuming indeed. Noel uses an HE30 rx with a temporary antenna, and has quite a lot of QSLs in going to get a better one at a later date, hi. Thanks for your nice comments re the page.

SOUTH AUSTRALIA

As will be noticed we now have two contributors from VK5. This is very pleasing indeed, and few know, next month we may have a few more well let's hope so. Our latest addition is Brenton L5005, who uses an AR8 rx with a long wire aerial. Recent loggings were KA3, WV6, W7, XE1 and KC4 on 14 Mc. During the v.h.f. season we will find the 6 mx band very interesting. I hope that very nice score in the R.D. Contest brings you an award.

Alan L5055: I trust by now that you have received those two diagrams from Sid L2253, who had the matter in hand. Pleased to know that you enjoyed the first, that "A.R." is the latest QSLs to hand: KZ3, SM3, V82 and ZL3.

WESTERN AUSTRALIA

From Peter L6821 comes the usual Westside story of a very busy day, but he has used a go-getter so far as S.W.'ing is concerned. In the recent R.D. Contest he sat at the dials for 31 hours to clock a very good score. These points were compiled from 14 Mc and 30 mx only, as 15 was out, which makes it a very good performance indeed. Recent cards to hand: VS5, US1, KZ3, 9Q3, DL7, VLS, OI2 and OK3. Stations heard during the month are too numerous to print, but I counted 50.

Articles by members for our page would be welcome, so if you have something of interest to S.W.'s let us send it along.

On the DX ladder, appear a few members who have not sent any progress scores for some time. If these are not to hand for the Nov. 1984 issue, their names will be deleted.

I would appreciate members' views on a scheme of S.W.'s exchanging letters. Much good can come by corresponding with other S.W.'s and only one reply, but I think if this idea is given support, we can seek overseas S.W.'s to participate also.

Sometimes the longest way round proves to be the shortest way home, and the man of experience and wisdom is the one who finds the quietest, simplest and safest way.

That's about it for this month. I would like to thank Tim ZTM for this article, and those members who wrote to me. 73, Chas. L2211.

S.W.L. DX LADDER	Countries	Cns	Sabb	W
	Cont.	Hrd.	Cont.	Cont.
E. Treblhook	284	292	40	—
D. Grantley	124	281	38	20
P. Drew	121	241	32	96
A. Westcott	83	159	31	9
M. Hilliard	89	241	33	35
M. Cox	64	232	30	11
G. Oates	130	210	31	48
C. Abernethy	63	104	32	14
N. Harrison	56	172	31	22
L. James	51	144	24	38
J. Thomas	43	159	31	9
R. Beckley	27	47	19	—
A. Raftery	21	125	15	8
R. Oats	9	26	8	—

☆

NEW CALL SIGNS

JUNE 1984

VK3YD—T. D. Withnall, 44 Banks St., Padstow.	
VK3AYV—R. L. Thornton, 23 Ebley St., Bondi Junction.	
VK3BA—G. S. Radford, 9 Loftus Rd., Pennant Hills.	
VK3BAC—A. H. Beusch, 68 Charlotte St., Ashfield.	
VK3BAL—L. W. Hodgkiss, 183 Liverpool St., Sydney.	
VK3BGB—G. B. Burton, 41 Greene Ave., Ryde.	
VK3BGG—G. J. Griffiths, 62 Polwood St., Kempsey.	
VK3BJO—J. Oosterveld, Lot 4, Gosford St., Awaba.	
VK3BJW—J. L. Webber, 56 Shortland Ave., Townsbush.	
VK3ZDY—B. N. Chaffield, 5 Kapooka Place, Cooma North.	
VK3ZFY—C. F. Veitch, 131 Burwood Rd., Croydon Park.	
VK3ZGG—A. J. Gray, 37 Culver St., Kogarah.	
VK3ZKD—L. J. McHugh, Married Qtrs., 402 Sigs Rept., Walgrove Rd., Walgrove.	
VK3ZKE—J. N. Nikotin, 49 Waverley St., Belmore.	
VK3ZLF—R. Soulie, 17 Jane St., Randwick.	
VK3ZLL—P. J. Lowe, 3 Hockley Rd., Eastwood.	
VK3ZPA—P. A. Ament, 46 Sinclair St., Crows Nest.	
VK3ZKD—G. M. T. Clarke, 2 Beaconview St., Balgowlah.	
VK3GP—G. A. Macfarlane, Ormond St., Balmoral.	
VK3UO—C. O. Williams, 25 Wentworth Ave., Sandringham.	
VK3WV—J. E. Walker, C/o O.T.C., Fiskville.	
VK3ZBQ—B. V. Shields, 72 Lloyd St., Strathmore.	
VK3ZCF—H. Schroder, Nantilla Rd., Clayton.	
VK3ZET—R. S. Tucker, 40 Panoramic Rd., North Balgowlah.	
VK3ZTY—J. T. Young, 55 Salmon Ave., Essendon.	
VK4DS—De La Salle College Radio Club, Scarborough Rd., Scarborough.	
VK4JW—J. A. Hazzard, 20 Fig St., Bundaberg.	
VK4MS—M. S. Johnson, Station: Willis Island. Postal: 63 Bombard St. Mt. Pleasant, West Australia.	
VK4TE—J. Seb, Station: Willis Island. Postal: 11a Valley Drive, Glen Iris, Vic.	
VK4ZJH—D. J. Hutchings, Hake Manchester, 1000 St. George's Rd., Newcastle.	
VK4ZRD—K. R. Davis, 346 Henson Rd., Salisbury.	
VK5NY—R. S. Bowman, Beau View, Parrakie.	
VK5VE—W. N. Thomas, 15 Keevil St., Elizabeth North.	
VK5ZK—J. C. Cong, 20 Blencowe St., Elizabeth Grove.	
VK5ZEX—E. E. Bolt, 22 Birdwood Tce., Plympton.	
VK6DT—R. D. Trickett, 62 John St., Cottesloe.	
VK6LY—R. F. Crowell, 95 Dalkeith Rd., Nedlands.	
VK6MW/T—W. H. Murden, Flat 14, 118 Terrace Drive, East Perth.	
VK6GZ—Zepczyk (Rev. Fr.), Catholic Mission, Kavieng, F.O.	

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V.H.F.

V.h.f. notes for this issue are rather sparse, with some regular contributors missing. The two V.h.f. Group Newsletters are quite interesting and it is hoped that the VK3 V.h.f. Group will present their version in the near future. This is good for V.h.f. enthusiasts as the format produces gossip, etc., for the v.h.f. without boring all the other devotees.

All VK Amateurs are eagerly awaiting the launching of Oscar III. How many times will it have to wait its flight. If the achievements of overseas Amateurs mean anything then new chapters will be written into our Amateur history books.

Wally 6ZAA recently visited the Eastern States and I was able to have a 600-ohm QSO with him on his way through Melbourne. Unfortunately was unable to make it an eye-ball effort. Any Amateurs visiting Melbourne are welcome at the home QTH for an eyeball QSO or contact me as per details in Sept. "A.R." 73, 3ZGP.

NEW SOUTH WALES

The following is extracted from the VK2 V.h.f. Group's Newsletter. The v.h.f. 24-hour event based on the ideals of the Remembrance Day Contest is over. It appears that over 80 stations took part. There were 27 logs returned and it was won by a country station. Proof enough that if v.h.f. section was included in the main contest, it would receive support at least to the h.f. section. All who took part enjoyed it. The v.h.f. section was held for the 24 hours, the activity only stopped between 0200 and 0600. A great many full calls appear in the logs. The Group Committee wish to thank and everyone of you for supporting this event and hope to see you again next year (on a nation-wide effort). The honour of first place goes to Tony 2ZCZ from Newcastle.

Activities, October 2: Meeting; most likely a series of films on Rain-Making, Oct. 3-4-5, Day Contest. Three field activities. The Hunter Branch will be holding their usual Dinner and field events. The South West Zone will be using every one of you for supporting this year. The V.h.f. Group will be holding a camping week-end. Horrie 2HL will be the chief scout and he still wanting to hear from anybody interested. Unless there are 6 to 12 firm starters, it will not be much. Within 10 miles of Sydney, field events on the Sun. day. Contact Horrie and listen to the broadcasts for details. Oct. 23 will be the Wolongong field day. Oct. 28 will be the night fox hunt. Dave 2AWZ and John 2ANF will be the foxes.

From Canberra: John 12RX reports that Eddie 1VF is on 2 regularly with 2AAK and 12RX. Eddie is building a 4CR Mc. rig and has his 8 mX ready for summer. 12R is now on 2 to a halo. 12RX is on 2 frequently two or three times a week. He is building for 4, a shack and a tower. His beam is a 3 element CBEW spaced towards Sydney and Channel ABEW NA is consistently 5 and 7.

THE BEACON BOX

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2 Metres — 144.800 Mc.

One call on c.w. then carrier for 40 seconds, then repeat, etc. operation is almost continuous.

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Automatic c.w. identification with approximately four seconds' key-down position. Operation is almost continuous.

VK3: ATVO—

51.75 Mc. f.m.

0900 — 2300 hours daily.
(100Kc. c.r.p., 2600 ft. elevation)

QUEENSLAND

What has happened to 2 metres of late? The chief complaint on this band has been the appearance of a 5 x 9 signal from Brisbane Island. Ross 4ZAT is responsible for it. Tom 4ZAL took portable 2 mX gear with him when he went to Toowoomba recently, but he had beam trouble. The trouble took the form of a howling sound westerly gale. Bert 4CP should be running an EMB to 5 mX by the time you read this. Tom did visit a number of the boys upon the range and he tells me that Keith 4ZKX could be expected to be using a 2 mX mobile from Picnic Point in the future.

A week or so later Tom went down to the South Coast (Surfers Paradise). I don't know what words he used, but it seems quite likely that John 4RZ, Arthur 4FE and Bill 4WS may be establishing a 2 mX net with the object of both local and Brisbane DX. It is rumoured that a certain Ham whose v.f.o. is more stable than his crystal on 2 mX is in the process of building a "proper" receiver for the band—last did you say?

There are some impressive thank-you cards from Scout Hdq. for those who took part in the Easter Scout Venture. It is good to know that the v.h.f. boys are thought of so highly by the Scouts. We thank the Scouts for their kind thoughts and for the help they have given to make ourselves available and provide radio communications for the Easter Scout Ventures. All those who went to the last venture will share with me that we have had a wonderful time.

While on the subject of Scouts, I may mention that 2 mX stations are possibly a couple of 2 mX stations will be on during the Jamboree-on-the-Air. Stations that will be using 2 mX for signals include David 4ZDF, Tom 4ZAL, Angus 4ZIC and Mick 4ZAA.

I have word that John 4ZAL will be looking for 6 mX contacts from the Rockhampton Island from November onwards. Scott 4ZWL from Cairns is in the big smoke and has made many contacts. He may be here permanently now.

Of late there has been talk of a 6 mX tx hunt and of the regular hunt on 2 mX. The main problem is that the city is full of sizes in directional serials needed. (We get enough glances from the public as it is when the Mick Mobile goes through the city complete with 2 mX beam.) However, Malcolm 4ZEL says he has solved the problem but as yet we have not heard how.

I have been on holidays for two weeks and took 6 mX gear with me. I heard the Brisbane boys very well, but my gamma match was incorrect. Doug 4ZWL and Bill 4WS cut the bands and one night Doug, Bill 4WS and myself went up to Eagle Heights to work back into the Brisbane boys. Last month I was minus ten degrees (it felt like it, anyway), but we managed to put a signal into Brisbane on both 6 and 5 mX. Finally, we worked Roy 4ZRM crossband duplex.

Although I could hear the Lismore boys from where I was, I could not make contact with them. I was very close to them. I was DX opening for a short time and I heard VK4 2 and 3. VK5s were also heard. Actually Tom 4ZAL heard ATVO up here and ATVO was on CQ DX. This produced results and Roy 4ZRM worked Herb 3JN.

Finally, before closing, I should like to welcome Dave 4ZBN, Dave 4ZJH and Lawrence 4ZLL to the v.h.f. bands. 73, 4ZPL.

WESTERN AUSTRALIA

From the VK6 V.h.f. Newsletter: The Scout Jamboree-on-the-Air will be held on October 17-18. Members 6ZAY, 6ZEA, 6ZEP, 6ZEE, 6ZEE and 6ZBY indicated they will take part in this activity. Lance 6LR, Allyn 6ZDM, Doug 6ZDW and Tony 6ZDT were asked to be a committee to investigate the difficulties and methods of overcoming same in constructing a 52 Mc. beacon for operation by Gill 6ZBW at Mawson, Antarctica. Gill will leave in December for a 15-month tour.

The meeting on 24th August was a junk sale. Quite a bit of good stuff amongst it too and by definition a "junk sale" it was. The sale was going for 2/-, a 7-9 Command went for 2.5 and somebody got a good electric fan for 5/-. Six cars were present at the fox hunt on 22nd August. The fox used to be a Fox Reporter and unfortunately could not be heard

at Plain St. due to a faulty coax connector. However, after opening the first clues and arriving at Moggan Park, all cars found the rig. Properly connected, it has been used to work Bunbury, 90 miles south.

I got an interesting boon on inverted vee beams from England recently. Their main advantage is a supposedly lower angle of radiation, but since it does not seem to matter whether the vee is inverted or upright, as in the dual vee beams, I'm wondering if the intermediate position would not be just as good. Activity on v.h.f. is sluggish due to much re-building of gear. Jack 6BU has built a converter to feed into his Collins 75A3 on 58 Mc. When last heard, he hadn't figured out which 100 kc. pip was which as those net frequency (?) guys were spread over a couple of hundred kc. and he was confused.

Don 6HK has tried etching a crystal with some ammonium bifluoride. 100 kc. a day is the rate and it slows down as the crystal gets smoother. Should be useful for changing 50 Mc. rocks to 52. The crystal should be ground with paste after 200 kc. shift to avoid irregular etching. 73, 6ZAG.

PAPUA

52 Mc.: No DX signals heard during the month and only a little on air type activity locally.

144 Mc.: No signals heard, no activity. Reaction: The recent burst of activity in the construction field has shown a slight decline. 8ZGB has completed his new tx and is busy on a new rx. 9CK still working on a bigger and better tx. 8ZJD last seen alternating between semi-completed tx, rx, mod. h.t. supply and converters. 8ZBV is packing ports and should soon be active. 8ZABU until early in the new year. 73, 6ZEV.

CALL BOOK MAGAZINES

The Federal Treasurer, W.I.A. is still flogging recent back numbers of "Call Book Magazines" at the bargain price of £1 post free. There are two editions: (1) American Amateurs; (2) Amateurs of the 50 and 60 countries (known as the DX Listings). Apply to Bob Boase, VK3NI, 50 Cardigan Street, Carlton, Vic.

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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

I.T.U. FUND

As agreed at the last two Federal Conventions, Divisions were given target figures to meet towards raising representation at forthcoming I.T.U. Conferences. To date, the percentage of the target figures met are shown by States:—

VK3	25%
VK3	25%
VK3	23.6%
VK3	21%
VK7	

The above figures represent monies received by Federal and not necessarily monies still held by Divisions.

FEDERAL QSL BUREAU

As from last September the prefix for Singapore became 9M4 in lieu of VSI. W. Malaya remains at 9M2 but Borneo and Sarawak (E. Malaya) will also be 9M2. Hence, the figure not being known at date of writing.

VKAJQ, John Copley, back in N.S.W. after a tour of duty at Willis Island, desires from now on to handle all his own QSLs. He is now VK2AVU, 22 Pavillion St, Queenscliff, Sydney. One of the new men at Willis has a Ham ticket but is unlikely to give it much exercise.

Don Myles, ex-VK3DM, is now located at Flat 2, 175W Toorak Road, South Yarra. Vice QSLs for his VK0 operation will be issued on the arrival of cards from U.S.A.

The Malayan Amateur Radio Transmitters' Society has recently been receiving applications for a M.A.R.T.S. DX Certificate. As no such certificate exists, the Society wishes it to be known that it awards only one certificate.

The Worked All Malayan Area Certificate, the rules for which are reproduced below.

Certificate will be issued on the production of evidence of contacts with the aforementioned prefix in the Malayan area: ten in VSI, ten in VS2/9M2, two in VS4/VSS (one area), ten in VCS.

The Malayan Amateur Radio Transmitters' Society require the observation of the following rules when making an application for the award:

A signed statement to the effect that the applicant observed the rules of his/her licence when making the contacts; all 23 cards to be forwarded with the application; a list of contacts with date, time, frequency and mode of operation; overseas applicants send 10 I.R.C.s or \$1 (U.S.); that reports are not less than readability 3 and tone 8. Applications are to be made to the "Awards Manager", M.A.R.T.S., P.O. Box 777, Kuala Lumpur, Malaya.

Tribute must be paid in this column to the passing at end of August of my old friend and ex-QSL colleague, Jim Corbin, VK3FC.

For over a decade Jim conducted the Inward and Outward Bureau for the N.S.W. Division. Always a busy man with a multitude of interests, it is amazing how he found the time to devote to covering the life and work of his activities. An amazing man, fond of an argument on any topic, intensely loyal, always of a cheerful disposition, and despite all he had suffered a deep disappointment which left a lasting wound from which he never recovered and this contributed in no small degree to his illness and demise. My deepest sympathy is extended to his willing and able colleague, Ruth—his wife and family.

—Ray Jones, VK3RJ, Manager.

SILENT KEY

It is with deep regret that we record the passing of:—

VK2YC—J. B. Corbin, M.B.E.
VK3ZA—L. T. Frith.
VK6QJ—Jack Hoar, O.B.E.

NEW SOUTH WALES

HUNTER BRANCH

The curlew tolls the knell of parting day,
The ploughman homeward plods his weary way,
The rustling leaves of summer every day
And those who have them clearly get most
pay . . .

Talk about Gray hating energy when he wrote that lot—fading of course—I've got no energy left after twiddling all day knobs to catch all these new ducktalkers. Farmyard frolics is right with Joe 2ANL and now Jack 2KC. I should not be at all surprised to hear Zulu Lulu on the quackophone any day now. Meantime all the rest of us battle on with borrowed and beaten-up rigs. Oh it is a shame and why don't they pay me more money, etc., etc. But the poet is right you know, especially in the last line. Never mind about all these new fangled new things, steam, as I always say. What do you always say? And having philosophised at some length I must now report the doings of the month in this fair neck of the woods.

The September meeting was another well attended gathering of forty-three members, associates and guests. The performance was Tony 2ZCT with a voltage regulated power supply and how to make it, and Ian 2ZIF with all about an s.s.b. (not again) exciter—simplified version. As I was not present at the meeting—a rare occurrence I assure you—I am led to believe all these things. There was a certain amount of coming and going with competition books (they were raffle books if the truth were known) and many confidence tricks were played on innocent members to induce the sale of one or two. However, if it is all in a good cause and will help out with the dinner and field day.

At last justice has been done and the foreign intruder has been expelled. I refer to the Sunday morning call-backs which always include Woy Woy with the Lake Macquarie crowd. The foreigner has been expelled after several years, this anomalous position has been rectified and Woy Woy is put in its place—on the list of courses.

For a V.H.F. set is only proficient at making voltage regulated power supplies. He can also show the Sydney boys how to operate in a V.H.F. set. This is a pity. Faddy 2AU was able to win the recent VK3 V.H.F. R.D. Contest organised by the V.H.F. and T.V. Group. Tony came in first, despite competition from about 80 other stations.

I am forced at this juncture to hide my head and say profuse apologies to our old vehicle and driver, Sherwood, who has been replaced by a new one. Although my previous comments would suggest otherwise, he has been on the air. This is certainly shattering news, but it must be too good to last. Faddy 2AU was the lucky member at the other end of the contest.

The boys at Westlakes Radio Club are still progressing with aerials and equipment at the station. Thanks to Joe 2JR, they now have two balun transformers for the h.f. aerials, resulting in a much improved modulation and t.v.i. In addition, Henry re-built the band coupler and Max and Arlie finished the ZL Special for 20 mv. The tree climbers (riggers to those who don't know) were Jan 2BJO and Robert, who made things easy for the aerial erection. Max has made a light weight antenna and thanks to Joe 2JR and ex 2ZXA and now 2BSC for the loan of some decent microphones for the Monday night broadcast. The club is still in a happy state of course, and the club is grateful to them all for their assistance.

Because some lads studying for the A.O.C.P. mention must be made of Arlie or Rowley—he answers to both—fitting special brackets on the Suzuki to take an AT11 (mobile). This is a very nice idea and is suitably impressed following his visit to the most efficient station in the Branch and now intends getting the Arlie to own the site and especially for top band. We are all wondering what wonderful antenna structure he will use now that the myth of the railway track as a hula hoop has been dispelled.

I believe that there is a new small motor-cycle which stows in the boot of the car, to be used for traffic jams. This is a very nice Pan's suggestion about Hon. Ken now

assistant blue pencil pusher), one rude gentleman suggested that Max and I should have one such cycle in the car when attending meetings. What a puzzler! I have been intended one to ride and one to run or both to ride? Perhaps Ken, in his wisdom, could suggest a solution. For your information, none were in at 10 stone 51 (it sounds better that way).

Something is afoot in the Merewether area—and how is this known? Frank 2APO has not mentioned aerials for least three weeks. I suspect he has some ether-crusher hidden away for use in the summer. Gordon 2ZSG is all up in the air about his new shack and well he might be, since it is in a well elevated position. Lionel 2CS and Susan 2BSB were heard making rude remarks the other night about efficiency and DX. I think they were fact they both have decremental modulation! What the summer holds for top band nobody knows but 2000 hours is good and pure and equal to the demand, 80, 20, 10, 5, 2, 1.5 bands were in use, but the conditions for DX were generally poor. Despite this, Alec 2AAK and 159 contacts were made. 2AI about 400. These two stations operated from opposite ends of the guest house so I would think they got in each other's hair. The antenna included a GSRV antenna between palm trees at 20 feet high, and a 24-foot loaded vertical (guyed, no palm trees). The results were not too good. You will see that the device used, a scout fashion, they whipped up a 3 element fixed beam for 20. Fancy leaving the tape-measure at home.

Phil was forced to improvise and he remembered that from the tip of his nose to his outstretched finger-tip was 36 inches. On this basis a three element beam was constructed. The wires were held in place at 16 foot separation by nylon cord and suitably placed palm trees. The s.w.r. was 1.65 I am told. You will see that the device used, a scout fashion, they whipped up a 3 element fixed beam for 20. Fancy leaving the tape-measure at home.

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—

VICTORIA

SOUTH WESTERN ZONE

Hook-up activity has been fairly spasmodic, due possibly to the coming winter weather, but we remind members of our weekly hook-ups—Thursday 2000 hrs, and Sundays 1000 hrs.

In the Fire Net world, the Westerners group have used the 2400-2500 Hz band (2400-2500 3ADV and others in their capacity as VK3s

can be heard testing the VL3KJ network on 3765 kc.

Don 3AKN and XYL Peg are both to be active on obtaining their unrestricted privileges. Don is also a student and will also Bill 3XE and Bill 3WK and associate Keith Ross for getting restricted licences. Brian 3XN will soon be on the list and is at present waiting for a test as a student.

Congratulations to 3AAW, the club station of the Y.M.C.A. in Warrnambool for taking the top position in the 1000m contest for the Day this year. This effectively keeps this particular section in the zone as one of our most active.

Peter 3FX will be going into a period of inactivity due to a change of QTH. His new location is on higher grounds and not far from the Warrnambool lighthouse. Maybe a long wire to the lighthouse for DX eh, Peter?

3WK was set up portable on s.a.b. at the recent Warrnambool Technical College Rally Club's display during Education Week. S.W.I. John Ross was responsible for arranging the very effective display.

David 3ZTN has been operating regularly from Hamilton on Sundays using home-brew 2 mx f.m. on channels A and B. His most regular contact is Don 3AKN. Another station expected on these channels soon is Bill 3XE who is currently wrestling with the bugs in his new home.

A number of zone members recently met Lindsay 3ZEL when he visited Warrnambool, bringing with him a new 1000m transmitter. Orange (VK2) for over 12 months, Lindsay reports that Orange, though cold, is friendly and by now no doubt will be back at toll in that station. Lindsay is leaving Warrnambool. Hope we can work you on 6 again this summer, Lindsay, 73, 3WK.

— — — — —

QUEENSLAND

NOTES FROM DIVISIONAL COUNCIL

The August Council meeting was held on Thursday 24th at 4 P.M. at the Clubhouse. Eleven members of Council were present. Laurie 4ZOL, the organiser for W.L.C.E.N., was authorised by Council to appoint two councillors to assist him in getting these activities moving in VK4.

A Council vacancy occurred due to the resignation of our Public Officer, Norm 4NP. Norm has reluctantly been forced to tender his resignation as he is off to VK2.

Ron 4JQ has been appointed to replace him. All the above have been Outward Bound QSL Officers since the formation of the present Council. George 4XY has been appointed an Outward Bound Officer. He will be in the position of Equipment Officer which has been vacant for some time.

AUGUST MONTHLY MEETING

The main business of the evening was a report on Jamboree-on-the-Air preparations. Scout Headquarters Commissioners Barry Smith and Noel Lynch were both present at the meeting and names of Scout Groups, without Amateurs to help them, were read out. This year most frequencies including v.h.f. will be used from the station operating from Scout Headquarters in Brisbane. Although the location was not a hope, the Scout Group, if possible, stations as possible will call the Headquarters station. Special provision has been made for a room to be erected so good results should be obtained.

The usual lecture after business had been dealt with was given by Sgt. A. Crawshaw, Scout Headquarters Communications Branch. The subject was "A Brief Outline of Civil Defence Organisation". Sgt. Crawshaw, an experienced soldier, was one of the successful students at a recent school held at Mt. Macedon in Victoria. He was a confident speaker and although the actual lecture material had very little "radio" content, it was of interest to subjects that had interest for everybody. A very enjoyable night was held by all who attended the meeting.

A letter was read to the meeting from 2AVU, formerly 4JQ of Willis Island. He says as Willis is separate country, he is now wanting a QSL card from him should let him know. His new address can be obtained from the VK4 QSL Bureau if the new Call book has not come in the time you are writing.

A report on the Division's Annual Dinner indicated that it was a complete success. Friends and members were present and a highlight of the evening was a talk by Rev. Burke on "Broadcasting Arrangements". The dinner was held at Tokyo. The lecture, ragchews were going on all over the place—poor Jimmie 4PR, he was at a severe disadvantage as he had a mild attack of Laryngitis.

GENERAL NEWS

At 4SS is proposing to let us have some DX news again. The thought is very much appreciated and we look forward to regular reports from him. Regular news from WASH. is expected to be received at 4W1, via 4T7. Things are really up to date.

John 4RZ seems to be permanently installed in his Southport home. He has moved from the station because of the wires and antennas have appeared. Arthur 4FE is damaging all the 8 meters in the Southport area, and 4RZ is about to come back on the band. Incidentally, 4RZ was most mystified why he could only get a 5 x 5 signal into Lismore on 80 mc. I will write to him though, as he is about to give up his 80 mc long wire! An editor for "QTC" still has not been found at time of writing. Peter 4PJ, who has been producing a long single sided QSL card, is nearly permanent, could spend valuable time on other Divisional matters. How about offering your services?

The following is part of notes compiled by Newt 4QW while on holidays. Mount Isa—Owen 4OV uses a beam for 20 mx and a triangular shielded antenna for 40 and 60. He is very active when work allows, but does not rise early enough to join the Kookaburras. At present the only other active hams in 4QW are unable to give proper coverage to noise from the 133VZ, lines across the road. However, he is getting a mobile receiver ready.

Charters Towers—Des 4GZ has a wonderful array of equipment in his shack and is still adding more. He is not yet converted to a.s.b., but does use a mobile station for 40 and 60. He has electronic key expertise. He finds conditions bad for local contacts, the stations being either too close and too close or far away that the noise or QRN interferes with phone. Consequently c.w. is usually the order of the day.

Mackay—John 4FH has a tidy beam above the rooftops but is only occasionally active. 40P is not at present active at 40 and 60 due to a change of QTH. Incidentally, Newt was collared into broadcasting for both the 40 and 60 bands, so could state that the Mackay—a change from an ART, ATB and trap-loaded window!

Well that's all for now. I hope the band conditions are not too bad for the time being with you all the best in the Jamboree-on-the-Air, 73, 4ZBD.

TOWNSVILLE AND DISTRICT

Seems that all correspondents except Panfy are finding the going tough in getting enough news to keep their columns going. I am getting enough of the chase myself. I also find it the same.

A fortnight ago Bert 4LB and myself journeyed to the power Board Club to discuss the local areas in a send-off to Claude 4UX. Claude has been promoted and has since left for Victoria to have a refresher course in television prior to taking over a new station in Childers.

A very pleasant evening and dinner were spent at the Hotel Ayr, where Frank 3ZHF acted as host to the gathering in making the presentation to Claude for the wonderful work that he has done in getting the local boys through their examinations and on the Ayr. Under Claude came to station in the local activity was practically non-existent. Claude has also been responsible for the local Scout movement, receiving much knowledge and taking out portable gear and camping with them on all occasions.

Frank spoke for a very long time in paying tribute to Claude and his work on the train. He was unable to enumerate everything he wished to say in this regard. Bob 4RW suitably backed him up, telling of the long time he has known Claude and the help he has received whenever required. Also tribute was paid to Jess for the numerous cups enjoyed in visiting their QTH. Frank then presented Claude with a brief case in recognition of the esteem of which he was held by the local club.

Claude, in responding, was very much over-come and belatedly said that the train at the time he then traced in a very, very brief way, the course of Amateur Radio in the district and his separate association with the W.L.A. He sincerely hoped that the boys whom he had helped would continue on where he has left off and exceed the local club of Townsville in numbers of members in the near future.

Two members backed up the other speakers and the evening finally came to an end. Always remember while travelling, there will be cups waiting at Claude's new QTH as you pass through Childers.

Very unfortunate not being on the job when Ernie 2ADJ, June 24th, but at the train at a station (railway) to look me up as he and

family were passing through on a visit as far north as Cairns. While in Townsville, Ted 4EJ took him in tow and showed him all the best of places and the sights that can be seen. Believe he had trouble in dragging metal 6L6s. Ernie contacted me on the twisted pair on the job, very sorry that I did not meet him in person. I have visited his shack on numerous occasions while in Sydney.

S.W.I. L2136/4, After still in the Cairns Hospital and is progressing slowly.

Interference was claimed by local taxi club recently. Just as well I was out visiting the local hospital at the time and not being on the v.h.f. band since the last Ross Hull Contest. meet him in person. I have visited his shack that a harmonic of around 14100 on a.s.b. could be heard on a.m. by the taxi company. Perhaps when all is said and done, it was one of the worst things which was left on record (a very wild guess!).

Bill 4ZBE and Don 4ZDM are anxious to start a class for budding Amateurs. While I think it is about time the local high schools were interested in Youth Radio Clubs. Anyone interested in carrying the matter further? Also the University may catch another avenue for our hobby. 73, Bob 4RW.

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SOUTH AUSTRALIA

The monthly general meeting of the VK3 Division was held as usual in the clubrooms to a very representative gathering of members and took the form of a display of members' home-constructed equipment. There is very little new that can be written about this type of meeting night, except to say that the quality of the gear displayed, plus the ingenuity of the members displaying the equipment seems to improve so much each succeeding year. Personally, this type of meeting is the only one in the syllabus which I do not like because of the type of meeting itself, but because always at the end of the meeting I have such an inferiority complex that it takes me about a fortnight to get my confidence back. The reason? Simple, when those youngsters have finished their displays and have given their personal explanations of the equipment to a goggle-eyed audience, to say nothing of the fact that one or two of them are only just in their teens, and I am an old-timer, feel about as ignorant of Amateur Radio and its present day practice, as it is possible to feel.

Anyway, be that as it may, the gear displayed was of a high order and I certainly do not envy the judges their job, although the three of them (Lloyd 5OK, Jeff 5ZP and Geoff 5ZQ) did not appear to be particularly to any degree. There were four sections, and the following members filled the placings. Transmitting: Gilbert 5OX with an excellent



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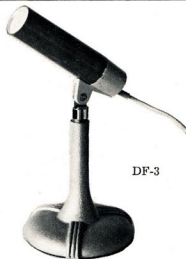
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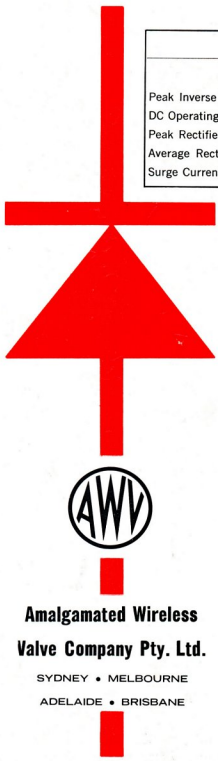
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